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| 10/008,363      | 11/07/2001  | Jamelyn D. Holladay  | 13020G              | 4377             |

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EXAMINER

COCKS, JOSIAH C

ART UNIT

PAPER NUMBER

3749

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/008,363

**Applicant(s)**

HOLLADAY ET AL.

**Examiner**

Josiah Cocks

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 and 24-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/11/2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Election/Restrictions***

1. Applicant's election with traverse of Group I (claims 1-9 and 16-23) in the reply filed on 4/26/2004 is acknowledged. The traversal is on the ground(s) that Group II (claims 10-15) should also be examined with Group I because the claims of Group II are also drawn to a microcombustor and examination would not put any undue burden on the examiner. The Requirement for Restriction/Election mailed 3/23/2004 characterized the microcombustor claims 1-9 and 16-23 and the microcombustor of claims 10-15 as unrelated inventions. However, the examiner considers that the microcombustors recited in the two groups of claims are better characterized as patentably distinct species of microcombustor. The microcombustor of claims 1-9 and 16-23 includes heat exchange structure and the microcombustor of claim 10-15 includes reaction chamber and liquid evacuation structure. Each of the microcombustors species includes class and subclass searches not required for the other. The requirement to elect one of these species is considered proper.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

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are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant's response filed 4/26/2004 is considered to be an election of the species of Group I, claims 1-9 and 16-23.

2. Claims 10-15 and 24-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-6, 9, 16-20, and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by *Tonkovich et al.* (US # 6,200,536).

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*Tonkovich et al.* discloses in Figures 1-6 a microcombustor and steam reformer substantially as described in applicant's claims 1-6, 9, 16-20, and 23. In Figure 2a first section comprising a combustion fuel channel with inlet (104) and outlet (106), and a second section next to the first section and including a combustion chamber (108) with an inlet in communication with an outlet (112) that is capable of evacuating combustion exhaust products. The combustion fuel channel and the exhaust channel are disposed on a same side with respect to the combustion chamber, so as to form a first heat exchanger, and are in parallel planes (see Fig. 2a, col. 3, lines 18-42, and col. 3, line 62 through col. 4, line 16). *Tonkovich et al.* also discloses that a catalyst (300) may be included in the combustion chamber (see col. 4, line 63 through col. 5, line 23). The microcombustor is disclosed as being used with a fuel reformer (410) and a fuel cell (402) (see col. 5, lines 24-41) and may include a working fluid/reformer fuel inlet (120) and multiple heat exchange chambers with multiple heat transfer layers (see Figs. 2c and 2d).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under

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37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 7, 8, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tonkovich et al.* (US # 6,200,536) as applied to claims 1 and 16 above and further in view of *Sanderson* (US # 3,498,844).

*Tonkovich et al.* discloses all the limitations of claims 7, 8, 21, and 22 except for a liquid evacuation system comprising a wick.

*Sanderson* teaches a fuel cell in the same field of endeavor as *Tonkovich et al.* wherein the fuel cell of *Sanderson*. includes a water removal system that includes the use of a wick evaporator (20).

Therefore, in regard to claims 7, 8, 21, and 22, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the microcombustor of *Tonkovich et al.* to incorporate the wick evaporator of *Sanderson* as for the desirable purpose of removing excess water from a fuel cell system (see *Sanderson*, col. 3, lines 11-41).

### ***Conclusion***

8. This action is made non-final. A THREE month shortened statutory period for reply has been set. Extensions of time may be available under the provisions of 37 CFR

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1.136(a). In no event, however, may a reply be timely filed after SIX (6) months from the mailing date of this communication.


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Morishima et al.*, *Wegeng et al.*, *Sederquist et al.*, *Masel et al.*, *Cohen et al.*, and JP 2002-61805 are included to further show the state of the art concerning microcombustors and steam reformers.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (703) 305-0450. The examiner can normally be reached on weekdays from 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at (703) 308-1935. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

jcc  
August 8, 2004

  
JOSIAH COCKS  
PRIMARY EXAMINER  
ART UNIT 3749

